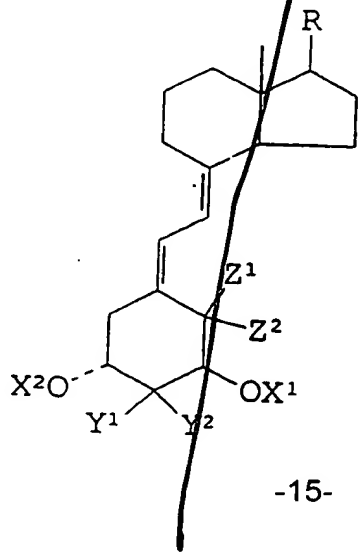
CLAIMS

We claim:

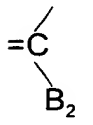
1. A method of delaying the onset of diabetes in a human patient, comprising the step of orally administering to the patient an effective amount of a vitamin D compound such that the onset of diabetes or diabetes symptoms is slowed.

2. The method of claim 1 wherein the compound is selected from the group consisting of 1α,25-dihydroxyvitamin D_3 (1,25-$(OH)_2D_3$), 19-nor-1,25-dihydroxyvitamin D_2 (19-nor-1,25-$(OH)_2D_3$), 24-homo-22-dehydro-22E-1α,25-dihydroxyvitamin D_3 (24-homo-22-dehydro-22E-1,25-$(OH)_2D_3$), 1,25-dihydroxy-24(E)-dehydro-24-homo-vitamin D_3 (1,25-$(OH)_2$-24-homo D_3), 19-nor-1,25-dihydroxy-21-epi-vitamin D_3 (19-nor-1,25-$(OH)_2$-21-epi-D_3), 1α hydroxy vitamin D_3 or 1α hydroxy vitamin D_2.

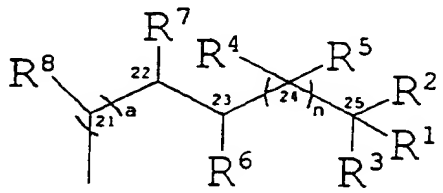
3. The method of claim 1 wherein the vitamin D compound is selected from the group consisting of vitamin D compounds with the following formula:



wherein X^1 and X^2 are each selected from the group consisting of hydrogen and acyl; wherein Y^1 and Y^2 can be H, or one can be 0-aryl, 0-alkyl, aryl, alkyl of 1-4 carbons, taken together to form an alkene having the structure of B1



where B_1 and B_2 can be selected from the group consisting of H, alkyl of 1-4 carbons and aryl, and can have a β or α configuration; $Z^1=Z^2=H$ or Z^1 and Z^2 together are $=CH_2$; and wherein R is an alkyl, hydroxyalkyl or fluoroalkyl group, or R may represent the following side chain:



wherein (**a**) may have an S or R configuration, R^1 represents hydrogen, hydroxy or O-acyl, R^2 and R^3 are each selected from the group consisting of alkyl, hydroxyalkyl and fluoralkyl, or, when taken together represent the group-$(CH_2)_m$-wherein m is an integer having a value of from 2 to 5, R^4 is selected from the group consisting of hydrogen, hydroxy, fluorine, O-acyl, alkyl, hydroxyalkyl and fluoralkyl, wherein if R^5 is hydroxyl or fluoro, R^4 must be hydrogen or alkyl, R^5 is selected from the group consisting of hydrogen, hydroxy, fluorine, alkyl, hydroxyalkyl and fluoroalkyl, or R^4 and R^5 taken together represent double-bonded oxygen, R^6 and R^7 taken together form a carbon-carbon double bond, R^8 may be H or CH_3, and wherein n is an integer

having a value of from 1 to 5, and wherein the carbon at any one of positions 20, 22, or 23 in the side chain may be replaced by an O, S, or N atom.

4. The method of claim 1 wherein the oral administration is via diet.

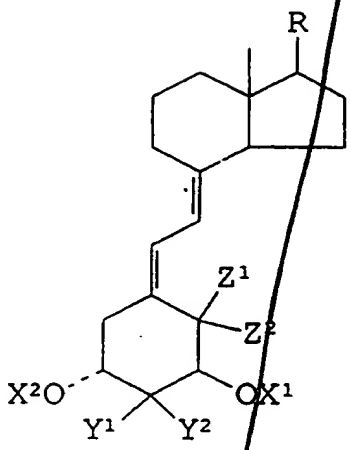
5. The method of claim 1 wherein the oral administration is at the concentration of between 0.005 µg to 0.2 µg per kilogram of patient weight per day.

SUB A2

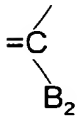
6. A method of reducing the severity of diabetes symptoms comprising orally administering to a human diabetes patient an effective amount of vitamin D compounds such that diabetes symptoms are lessened.

7. The method of claim 6 wherein the compound is selected from the group consisting of 1α,25-dihydroxyvitamin D_3 (1,25-$(OH)_2D_3$), 19-nor-1,25-dihydroxyvitamin D_2 (19-nor-1,25-$(OH)_2D_3$), 24-homo-22-dehydro-22E-1α,25-dihydroxyvitamin D_3 (24-homo-22-dehydro-22E-1,25-$(OH)_2D_3$), 1,25-dihydroxy-24(E)-dehydro-24-homo-vitamin D_3 (1,25-$(OH)_2$-24-homo D_3), 19-nor-1,25-dihydroxy-21-epi-vitamin D_3 (19-nor-1,25-$(OH)_2$-21-epi-D_3), 1α hydroxy vitamin D_3 or 1α hydroxy vitamin D_2.

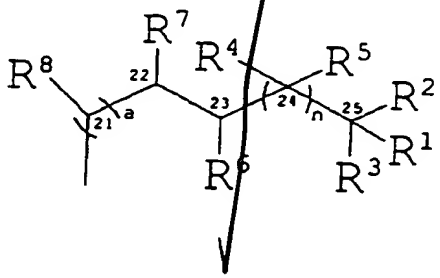
8. The method of claim 6 wherein the vitamin D compound is selected from the group consisting of vitamin D compounds with the following formula:



wherein X^1 and X^2 are each selected from the group consisting of hydrogen and acyl; wherein Y^1 and Y^2 can be H or one can be 0-aryl, 0-alkyl, aryl, alkyl of 1-4 carbons, taken together to form an alkene having the structure of B_1 where B_1 and B_2 can be selected from the group consisting of H,



alkyl of 1-4 carbons and aryl, and can have a β or α configuration; Z^1=Z^2=H or Z^1 and Z^2 together are =CH_2; and wherein R is an alkyl, hydroxyalkyl or fluoroalkyl group, or R may represent the following side chain:



wherein (a) may have an S or R configuration, R^1 represents hydrogen, hydroxy or O-acyl, R^2 and R^3 are each selected from the group consisting of alkyl, hydroxyalkyl and fluoralkyl, or, when taken together represent the group-$(CH_2)_m$-wherein m is an integer having a value of from 2 to 5, R^4 is selected from the group consisting of hydrogen, hydroxy, fluorine, O-acyl, alkyl, hydroxyalkyl and fluoralkyl, wherein if R^5 is hydroxyl or fluoro, R^4 must be hydrogen or alkyl, R^5 is selected from the group consisting of hydrogen, hydroxy, fluorine, alkyl, hydroxyalkyl and fluoroalkyl, or R^4 and R^5 taken together represent double-bonded oxygen, R^6 and R^7 taken together form a carbon-carbon double bond, R^8 may be H or CH_3, and wherein n is an integer having a value of from 1 to 5, and wherein the carbon at any one of positions 20, 22, or 23 in the side chain may be replaced by an O, S, or N atom.

9. The method of claim 6 wherein the oral administration is via diet.

10. The method of claim 6 wherein the oral administration is at the concentration of between 0.005 µg to 0.2 µg per kilogram of patient weight per day.